STATE OF CALIFORNIA- GRAY DAVIS, GOVERNOR THE RESOURCES AGENCY- MARY NICHOLS, SECRETARY FOR RESOURCES CALIFORNIA GEOLOGICAL SURVEY DEPARTMENT OF CONSERVATION- DARRYL YOUNG, DIRECTOR MICHAEL S. REICHLE, ACTING STATE GEOLOGIST 122°52'30" 38°22'30" 38°22'30" This geologic map was funded in part by the the U.S. Geological Survey USGS National Cooperative Geologic Mapping Polyconic Projection Program, Statemap Award no. 02HQAG0018

Contour Interval: 20 feet

UTM GRID AND 2002 MAGNETIC NORTH

DECLINATION AT CENTER OF SHEET

## GEOLOGIC MAP OF THE TWO ROCK 7.5' QUADRANGLE SONOMA COUNTY, CALIFORNIA: A DIGITAL DATABASE

VERSION 1

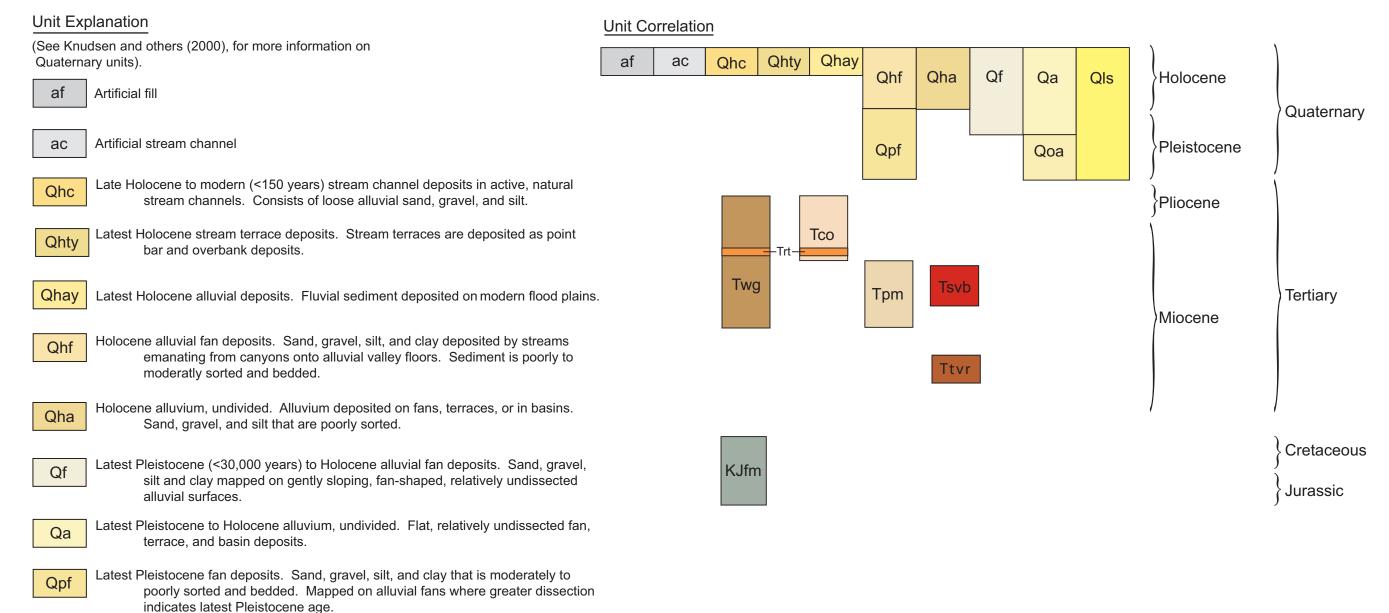
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Digital Database

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## Symbol Explanation

Contact between map units - solid where accurately located, dashed where approximately located; short dash where inferred; dotted where concealed.

Fault - solid where accurately located, dashed where approximately located;

short dash where inferred; dotted where concealed. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.

Anticline - Dashed where approximately located; dotted where concealed.

Strike and dip of bedding plane

Syncline - Dashed where approximately located; dotted where concealed.

Landslide - arrows indicate principal direction of movement. Queried where questionable.

References

Allen, J.R., 2003, Stratigraphy and tectonics of Neogene strata, Northern San Francisco bay area: San Jose State University, unpublished M.S. thesis, 179p, scale 1:24,000.

Blake, M.C., Jr., Smith, J.T., Wentworth, C.M., and Wright, R.H., 1971, Preliminary geologic map of western Sonoma County and northernmost Marin County, California: U.S. Geological Survey Basic Data Contribution 12, scale 1:62,500.

Davies, E.A., 1986, The stratigraphic and structural relationships of the Miocene and Pliocene formations of the Petaluma Valley area of California: University of Californa, Berkeley, unpublished M.S. thesis, 96 p.

Huffman, M.E., and Armstrong, C.F., 1980, Geology for planning in Sonoma County, California: California Division of Mines and Geology Special Report 120, 31 p., plates 2B and 3B, scale 1:62,500.

Fox, K.F. Jr., 1983, Tectonic setting of late Miocene, Pliocene, and Pleistocene rocks in part of the Coast Ranges north of San Francisco, California: U.S. Geological Survey Professional Paper 1239, 92 p.

Fox, K.F. Jr., Fleck, R.J., Curtis, G.H., and Meyer, C.M., 1985, Potassium-argon and fission-track ages of the Sonoma Volcanics in an area north of San Pablo Bay, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1753, scale 1:250,000.

Graymer, R.W., Sarna-Wojcicki, A.M., Walker, J.P., McLaughlin, R.J., and Fleck, R.J., 2002, Controls on timing and amount of right-lateral offset on the East Bay fault system, San francisco Bay region, California: Geological Society of America Bulletin, v. 114, no. 12, p. 1471-1479.

Kelly, F. R., 1982, Thermal springs and wells and radiometric ages of rocks in the Santa Rosa Quadrangle,

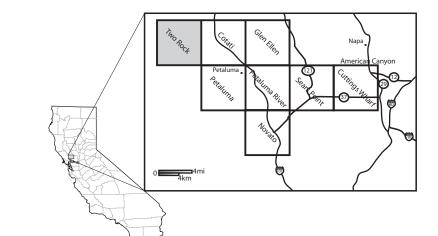
California, *in* Wagner, D. L., and Bortugno, E. J., Geologic Map of the Santa Rosa Quadrangle, California: Department of Conservation, Division of Mines and Geology Regional Geologic Map 2A.

Knudsen, K.L., Sowers, J.M., Witter, R.C., Wentworth, C.M., and Helley, E.J., 2000, Preliminary maps of

Quaternary deposits and liquefaction susceptibility, nine-county San Francisco Bay Region, California: A digital database: U.S. Geological Survey Open File Report 00-444, ver. 1.0, scale 1:275,000.

Sarna-Wojcicki, A.M., 1976, Correlation of late Cenozoic tuffs in the central Coast Ranges of California by means of trace element geochemistry: U.S. Geological Survey Professional Paper 972, 30 p.

Travis, R. B., 1952, Geology of the Sebastopol quadrangle, California: California Division of Mines and Geology Bulletin 162, 33 p., scale 1:62,500.



Early to late Pleistocene alluvial deposits, undivided. Alluvial fan, stream terrace, basin,

sandstone. The sandstone is fine- to medium-grained, well sorted, and

Sand and gravel of Cotati (Miocene). A predominantly marine transitional horizon

The Roblar Tuff (Trt) is interbedded near or at the base of unit.

from 6.32 to 7.83 Ma (Fox and others, 1985).

massive to poorly bedded. Well rounded pebbles of chert and quartz occur in thin lenses of pebbly sandstone .The Roblar Tuff (Trt), dated at 6.26 Ma (Robert Fleck, written communication, 2002) is interbedded with the Wilson

comprising massive, well-sorted sandstone and nearshore marine and fluvial conglomerate. The conglomerate is predominantly Fransiscan chert and is

locally rich in subrounded laminated siliceous shale (Monterey Fm.) clasts.

Middle Petaluma Formation (Miocene). A predominantly fluvial and esturarine deposit. It is composed of siltstone, sandstone, and conglomerate. Clasts in conglomerate

are mostly chert. graywacke, and schist derived from the Franciscan.

noma Volcanics(Miocene). Basalt flows and breccias. Olivine basalt flows dated

Rhyolite (Miocene). Rhyolite ashflow tuff dated at 9.36 Ma (Graymer, and others, 2002)

(greenstone), chert, gabbro, exotic metamorphic rocks imbedded in a sheared

Franciscan Complex melange (Late Jurassic to Cretaceous). Tectonic mixture of masses of resistant rock including sandstone, altered mafic volcanics

alluvial surfaces preserved; moderately to deeply dissected.

direction of movement.

Landslide deposits. Holocene and Pleistocene landslides. Arrows indicate the

/ilson Grove Formation (Miocene). Light gray to light yellow-brown marine

and channel deposits. Topography is gently rolling with little or no original

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